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IN THE

Supreme Court of the United States

October Term, 1972

No. 72-1536

BRUNNER & LAY, INC.,

Petitioner,

vs.

INGERSOLL-RAND COMPANY,

Respondent.

RESPONDENT'S BRIEF IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

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Introduction

This is a private action between corporate litigants involving a patent held to be valid, and infringed by petitioner. Petitioner merely seeks another level of review of the facts and law decided by the court below.

Despite petitioner's arguments, the Court of Appeals for the Fifth Circuit did not disregard the findings of fact by the district court, nor did it substitute its own findings for those of the district court. Further, the Court of

Appeals did not disregard any doctrines or decisions established by this Court, but instead, applied the long-established law to the facts in making its determination.

This case involves no new issues of law, it does not focus on any dispute between the circuits, it does not involve any questions affecting public welfare or policy, it is just another patent case of the ordinary variety where the dissatisfied litigant would like another level of review. Because of the total absence of any legitimate reason for review, we submit, the petition should be denied.

Respondent's Statement of the Case

This action was commenced by respondent, Ingersoll-Rand Company, on July 9, 1971, charging the petitioner, Brunner & Lay, Inc., with infringement of U.S. Patent No. 3,424,479. The patent in suit relates to rods used in percussion rock drilling.

Percussion drills are used in the heavy construction industries primarily for drilling blasting holes in rock, *e.g.*, in highway and dam construction and rock quarrying.

The rod itself called the drill rod is one of three components in the drill system. The other components are the drill bit and the drill hammer. The drill bit is the component in contact with the rock and performs the function of chipping or breaking the rock under impact. The drill hammer provides the impact force, and the drill rod is the connecting link for transmitting the energy from the hammer to the bit.

Drilling systems consisting of a spiral bit (resembling generally the hobbyist drill bit but larger in size) and hammer have been used for at least forty years. The drill bits were manufactured of varying lengths to accommodate the depth of the hole required but the practical depth of a hole rarely exceeded 6 feet.

Approximately twenty-five years prior to the patent in suit, the industry began using sectional rods of uniform length, typically 10 feet to permit the drilling of deeper holes. Sectional rods were threaded at each end for several inches for attachment to each other through an internally threaded coupling sleeve. When the drilling required depths greater than 10 feet, two or more rods were joined together by the coupling which was generally 5 inches long. The end of each rod was threaded half way into the coupling. The top end of the uppermost rod was connected to the drill hammer and the bottom end of the lowermost rod was connected to the drill bit.

The major problem with the drill rod was that it failed or broke under extraordinary stresses resulting from the blows of the drill hammer on the rod. Each failure of the drill rod required at a minimum that the drilling operation be shut down and that a new rod be substituted for the broken one. If the break occurred at a part which was inaccessible, the rod and bit were simply left in the hole and the drilling of a new hole was started over again. For the deeper holes, this was a time-consuming and costly event.

The majority of drill rod failures occurred in the threaded section at each end of the rod. The threads were

also particularly susceptible to wear in the coupling because of the abrasive environment.

Drill rod failure and thread wear were of constant concern to a cost conscious industry and it was desirable to have a rod which could be rethreaded, if it broke or if the threads wore out; *i.e.,* a reusable or reconditionable rod.

During the twenty-five years preceding the patent in suit, there were constant efforts and numerous attempts to solve the problem of drill rod failure. Those attempts resulted in accommodations and compromises which reduced the problem but did not solve it.

One attempt to solve the problem was to harden the drill rod steel. Several hardening techniques were developed. Even with the hardened steel, however, drill rod failures continued to occur, particularly in the threaded part of the rods. The hardening of the steel, although to a limited extent extended the longevity of the drill rod, introduced a serious disadvantage; it prevented the rods from being reconditionable without substantial expense and time-consuming reworking. When the hardened rod broke in the threaded portion, it was necessary to ship the rod from the jobsite to a machine shop to have the rod reconditioned for further use. That involved squaring off the rod at the break, annealing the rod (a process to remove the hardened surface), rethreading the rod and rehardening it. It was so expensive and time-consuming that as a practical matter hardened rods were more often simply discarded after failure.

Another palliative for the problem was simply to acknowledge that the drill rods would fail, and to make the rod of less hard metal so that it could be rethreaded at the jobsite. Such rods were, of course, not hardened and ruggedness was sacrificed for reconditionability.

Another approach to the problem was to focus on the threaded ends and to experiment with different metal working processes to form the threads. The conventional method of threading was called machining or cutting the threads which caused imperfections in the metal. Attempts were made to form the threads by other methods. Petitioner, for example, attempted to forge the threads at the ends of the rods. Other threading techniques were also tried and all resulted in failure. The problem continued to plague the industry.

The patented rod solved the problem by combining two inventive concepts. One of the inventive concepts involved threading the entire rod. No one prior to the patentees suggested this concept, because all knew that the threads were the primary cause of the problem. The patentees recognized, however, that another cause of the problem was the change in the cross-sectional dimension of the rod between the threaded and non-threaded portions. The discontinuity in the cross-sectional area caused destructive shock waves in the rod which resulted in the concentration of stresses at the junction between the threaded and non-threaded portions. The patentees recognized, as no one else previously, that a fully threaded rod eliminated the change in a cross-sectional area which was present in the end-threaded rods. Theoretically, the uniformity in cross-

section should at least reduce and possibly eliminate the creation of destructive shock waves.

The problems resulting from threading were a result of the nicks and notches produced by the threading technique in the surface of the metal; each nick and notch was a source of stress intensification. It was, therefore, necessary to develop a method of manufacturing the fully threaded rod without the creation of stress risers in the form of nicks and notches. No known threading process could achieve this result.

The second inventive concept was the discovery of a roll threading process that was interrupted before the completion of the threads. Roll threading as a technique of threading was well-known for more than fifty years prior to the patent in suit. Roll threading is a metal working process where the metal is displaced to form peaks and valleys. Each peak is formed by physically moving the metal from the adjacent valleys towards each other until the metal comes together to form a peak. Because the peak is formed by the two flanks coming together, a crevice or seam occurs at the peak extending downwardly towards the base. This crevice or seam is in the nature of a nick or a notch so that the normal roll threading process was unsuitable for the rod in the percussion system. The patentees discovered, however, that if the roll threading process was interrupted before the formation of the seam so that instead of a seam, a contoured groove was formed in the peak of the thread, the destructive effect of the nicks and notches would be eliminated.

The combined inventive concepts of fully threading the drill rod and incompletely roll forming the thread produced a unique rod which for the first time solved the problem. The patent specifically claims the invention in terms of both inventive concepts.

When the rod was first introduced to the field, it was met with substantial skepticism. When the initial skepticism was overcome, the patented drill rods achieved substantial commercial success and for the first time rod failure due to breakage was practically eliminated.

Petitioner Assumed the Posture of a Parasite; It Waited Until Respondent Proved the Technological Superiority of Its Patented Rod, and Then It Simply Copied the Patented Rod.

Petitioner's introduction to a fully threaded drill rod was by seeing the respondent's product; its manufacture of an identical rod was simply by copying the respondent's product; its method of manufacture was identical to that of the respondent with machinery purchased from the same manufacturer; its advertising even copied the claims of respondent without any independent verification, and extolled the same advantages.

After the petitioner first learned of respondent's patented rod, its president instructed its sales people to keep petitioner informed of the performance of respondent's rod while it was undergoing field testing. Petitioner's representatives contacted the customers who were using the new rod and reported to the petitioner uniformly good results.

After learning that the patented rod was technically superior to the existing rods, petitioner attempted to thread the rod by the conventional cut threading technique. It produced between one and four dozen fully threaded rods by the cut threading technique, and then discontinued this method of production. The petitioner thereafter simply approached the company who made the roll threading machinery for respondent and obtained the same machinery for itself.

Petitioner's advertising proclaimed the advantages of the fully roll threaded drill rod. The many advantages featured in its advertising were precisely those which respondent had discovered after field testing the rod it had developed. At the trial, petitioner's president admitted that petitioner had simply copied not only the patented rod, but the advertising claims from the respondent.

Reasons Why the Writ Should Not Be Granted

Each and Every Reason Suggested by Petitioner Is Refuted by the Record.

The first reason offered by petitioner is that the Court of Appeals ignored the findings of fact of the district court and independently made its own findings. The petitioner indulges in a game of semantics. It comments, for example, the district court found that drill rods threaded throughout their lengths were known, whereas the Court of Appeals stated that full length threading was novel and unique. Out of context, these appear to be inconsistent statements, but petitioner knows full well that when the district court made that finding, it was referring to spiral rods or twisted

rods and not threaded rods in the context of the patent. Petitioner also knows the record establishes that spiral and twisted rods could not be used, and that twisted percussion rods could not be made. Thus, although twisted rods (not percussion rods) were known, full length threading was both novel and unique as stated by the Court of Appeals. There clearly was no inconsistency in the findings by the respective courts when the findings are properly interpreted in light of the record.

The second alleged inconsistency in the findings of fact referred to by the petitioner is in regard to the thread rolling technique. The petitioner quotes the district court as finding that the thread rolling manufacturers recommended the practice of leaving an open seam or groove, whereas the Court of Appeals found that normal thread rolling leaves only a barely visible or invisible seam or groove. Here again, the petitioner engages in arguments *suggestio falsi*. There is no dispute that thread rolling leaves a seam which is barely visible or invisible; exhibits were introduced to establish that fact. The district court finding when properly interpreted in light of the record referred to the open seam as distinguished from a homogenous thread peak. In any event, the condition of the normally rolled thread was documented and demonstrated by physical exhibits for both courts to observe. The determination by the Court of Appeals was based on its independent inspection and examination of the physical and documentary exhibits.

We shall not belabor this Court by reviewing the remaining alleged discrepancies. They simply do not exist.

The Second Reason Offered by Petitioner for Granting the Writ "That the Court of Appeals Erroneously Assumed That the Examiner Had Knowledge of the Roll Threading Process" Is Baseless.

The petitioner stipulated that the roll threading process had been well-known for more than fifty years prior to the patent in suit. Petitioner also introduced into evidence earlier patents disclosing the roll threading technique (although not for use in the percussion drill rod). In view of the foregoing, we submit, that the second reason offered by petitioner fos granting the Writ is frivolous.

The Third Reason Offered by Petitioner for Granting the Writ "Whether Petitioner's Copying of the Patentees' Product Should Be Persuasive Evidence of Patent Validity" Is Misleading.

This argument presented by the petitioner is merely a strawman which is set up and struck down. What petitioner fails to mention is that it copied the invention only after it attempted to find the solution to the problem and failed. The futile efforts of an entire industry, including petitioner for a period of twenty-five years, to find a solution to the problem is indeed persuasive evidence of unobviousness.

The remaining reasons offered by petitioner are highly technical and without any basis in the law or in the record. We submit the Fifth Circuit followed the well-established law enunicated by this Court in the *Graham-Deere* trilogy of cases, 383 U.S. 1 (1966).

Conclusion

The petition should be denied.

Respectfully submitted,

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